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Caltrans Metric

11-SD-94
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Program HB4N
KP 33.3 to 62.6
(PM 20.7 to 38.9)

PROJECT STUDY REPORT
(PROJECT DEVELOPMENT SUPPORT)

1. Introduction

This Project Study Report (Project Development Support) proposes non-capacity increasing, operational improvements along State Route 94, from Melody Road to State Route 188 (see Exhibit 1). SR-94, a two-lane rural highway, is the main transportation facility that provides access from the San Diego urban area to the southeastern communities of San Diego County. Large vehicles and truck tractor-semitrailer combinations with the kingpin to rear axle (KP-RA) length exceeding 9.14 m (30 ft) are not able to negotiate some of the curves without crossing over the centerline stripe or driving off the edge of pavement. This study proposes that the roadway geometrics be improved to enable all legal length vehicles to stay within the traffic lanes in order to reduce accidents and to relieve traffic congestion and delay. This is a Category 4B project that is non-capacity increasing, but will require additional right of way (R/W) and an EIS/EIR level environmental document.

The cost of this project is currently estimated to be between $20 and $80 million dollars including R/W and support, depending on the final scope defined in the project report and environmental document. It is anticipated that funding will come from the State Highway Operations and Preservation Program (SHOPP). The purpose of this PSR (PDS) is to program this project as a "Long-Lead" SHOPP and amend it into the G-13 list so that the PR/ED can proceed. The PA/ED process is anticipated to take six years, after which individual operational projects will be programmed in the SHOPP.

2. Background

The existing two-lane, asphalt concrete roadway traverses mountainous terrain in a rural setting and passes through several small communities (see Exhibits 2, 3 and 4). State and regional transportation agencies have documented the need for operational improvements along this route. In 1995, Caltrans programmed a project (EA 0569UK) to add 2.8 km (1.7 mi) of passing lanes between Rancho Jamul Drive and Honey Springs Road. In 1997, Caltrans programmed a project (EA 165740) to add 7.6 km (4.7 mi) of passing lanes, utilizing a negative declaration (ND) environmental document. In 1998, the FHWA issued

a Finding Of No Significant Impact (FONSI). However, after evaluating community comments, it was determined that a more extensive environmental study should be performed, and the projects were subsequently unpared.

Caltrans completed a TRUCK RESTRICTION STUDY – State Route 94 in January, 1999 which investigated the current roadway geometrics and accident data. The study concluded that trucks can not legally be restricted from the route due to international commerce regulations. Also, it recommended that the 30-ft KP-RA advisory signs be retained with surveillance by the California Highway Patrol. As an intermediate goal, Caltrans recommended implementing operational improvements (realignments, lane widening and new passing lanes) at various locations identified in the report. Also, it recommended that these improvement projects should be pursued.

West of this study area, capacity increasing projects have been proposed. The current Regional Transportation Plan (RTP) includes widening to four lanes up to Millar Ranch Road, KP 25.1 (PM 15.6).

In January 2001, SANDAG completed RURAL HIGHWAY 94 CORRIDOR STUDY with the guidance and assistance of a Policy Advisory Committee and a Technical/Citizens Advisory Committee. The report recommends SR-94, east of Steele Canyon Road, be reflected as a two-lane conventional highway in Caltrans' planning documents, including the Transportation Concept Report (TCR). It states that, "non-capacity increasing operational improvements such as passing lanes, turn-outs, and curve realignments also will be needed to provide better operations and safer conditions in the corridor." It specifically identifies the curves that were included in the Truck Restriction Study. Several other long-term alternatives were addressed which considered new roads, opening a new Port of Entry at Jacumba and widening existing roads to four lanes. Since these alternatives are considered speculative, and not included in the region's 20-year plan, they will not be addressed by this PSR (PDS).

3. Purpose and Need

The SANDAG RURAL HIGHWAY 94 CORRIDOR STUDY documented the following concerns regarding traveling on the rural section of SR-94 with focus on several issues:

- Winding alignment and mountainous terrain;
- Lack of passing opportunities and queues behind slow-moving vehicles;
- Traffic accidents;
- Mix of passenger vehicles and trucks;
- Size of trucks;
- A mixture of school buses and truck traffic;
- Driving speeds on some segments of SR-94.

The TRUCK RESTRICTION STUDY identified various non-standard locations within this project's limits. It documented that the current roadway geometry does not provide adequate lane widths or sight distance on some curves. Bringing the configuration of the

highway up to current two-lane standards will relieve congestion, reduce potential accidents and improve the level of service (LOS) and passing opportunities. Currently, the lanes vary from 2.74 m (9 ft) to 3.66 m (12 ft) with paved shoulders that vary from 0.00 to 2.44 m (8 ft).

It is the opinion of most communities, governmental officials and agencies that this section of SR-94 should be improved.[1] Thorough environmental studies must be conducted to provide the information to determine the locations of environmental resources and sensitive sites along the corridor. Then, the improvement alternatives will be developed based on environmental impact data and an alternative can be chosen which minimizes impact.

SANDAG's strategy is to provide an adequate level of service for drivers on SR-94 including border crossing improvements, railway reopening and continuance of monitoring efforts. For the study area addressed by this PSR (PDS), the recommended highway improvements will specifically focus on non-capacity increasing operational improvements, i.e., standard lane and shoulder widths, passing lanes, turn-outs and curve realignments.

Route Description

SR-94 was adopted into the State Highway System in 1933. Before passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), SR-94 was classified as a rural minor arterial and was part of the Federal Aid Primary System.

The National Highway System (NHS) Designation Act of 1995 was enacted by Congress in November 1995. The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel. The new NHS includes the Interstate System routes. In Caltrans District 11, the NHS totals 789.0 km. All of SR-94 is now included in the NHS. The route is classified as a Principal Arterial between urban San Diego and SR-188, and as a Minor Arterial from SR-188 to I-8.

Various locations on the existing facility do not meet current lane-width and/or sight distance standards. In accordance with the *Truck Kingpin to Rear Axle Length State Highway System Evaluation Report* dated December 1989, the section of SR-94 from Otay Lakes Road, KP 39.7 (PM 24.7), to Tierra Del Sol Road, KP 101.7 (PM 63.2), has been identified as geometrically inadequate for use by truck tractor-semitrailer combinations exceeding a 9.14 m (30 ft) KP-RA length. This section of SR-94 traverses mountainous terrain, and is shown on the *Truck Networks on California State Highways Map* as a route not advised for tractor-semi trucks with kingpin to rear axle lengths greater than the posted value (KP-RA Advisory). The posted limit along this section is KP-RA length of 9.14 m

[1] The list of names is contained in the "Acknowledgments" section of the SANDAG Rural Highway 94 Corridor Study

(30 ft). The section of SR-94 east of SR-188 will be addressed separately from this PSR (PDS).

Traffic

The SANDAG study includes information about current traffic volumes, problems with the current route, Port of Entry considerations including international goods movement, long range traffic forecasts, environmental constraints, and preliminary cost estimates for improving the current route or constructing alternative routes. It also gives current LOS and Average Daily Traffic (ADT), shown in the table below, which are based on the SANDAG San Diego Region Average Weekday Traffic Volumes, May 2000. The 2020 forecast value was determined by Caltrans' Traffic Forecasting Department and assumes the following:

a. SR-94 will have some operational improvements (passing lanes and curve corrections) yet will still be a 2-lane conventional highway.
b. Cross border traffic will increase moderately.
c. None of the 4-lane facilities in the study will be open by then.
d. Commercial growth was 60% from 1995 to 2000 and is projected to increase 260% by 2020.
e. The population growth forecast for Jamul/Dulzura is 93% from 1995 to 2020.

ROUTE 94 SEGMENT	YEAR	ADT	LEVEL OF SERVICE
Melody Rd. to Otay Lakes Rd.	2000	8,100	E
KP 33.3 – 39.7 (PM 20.7 – 24.7)	2020	13,000	E
Otay Lakes Rd. to Route 188	2000	6,800	D
KP 39.7 – 62.6 (PM 24.7 – 38.9)	2020	9,000	D

Accident History

The accident history data from the Traffic Accident Surveillance & Analysis System (TASAS) Report for the period of December 31, 1997 through December 30, 2000 [2] indicate the following accident rates:

ROUTE 94 SEGMENT	Total Accidents (ACC)	ACTUAL Accident Rates (ACC/MVM)				STATEWIDE AVERAGE [3] (ACC/MVM)			
		F	F+I	PDO	Total	F	F+I	PDO	Total
Melody Rd. to Otay Lakes Rd. KP 33.3 – 39.7 (PM 20.7 – 24.7)	26	0.000	0.30	0.42	0.72[4]	0.030	0.67	0.71	1.38
Otay Lakes Rd. to SR-188 KP 39.7 – 62.6 (PM 24.7 – 38.9)	159	0.070	0.90	0.69	1.59	0.036	0.84	0.83	1.67

ACC = Accidents
MVM = Million Vehicle Mile
F = Fatality Rate (# Fatal Accidents)/MVM
I = Injury Rate (# Injury Accidents)/MVM
PDO = Property Damage Only Rate (# PDO Accidents)/MVM
Total = Total Rate (# Fatal + # Injury + # PDO Accidents)/MVM

4. Alternatives

There are nine alternatives considered in this PSR (PDS). Alternative 1 presents the no-build alternative. Alternatives 2, 3 and 4 propose standard and minimum build options. Alternatives 5 through 9 have been considered but rejected since they do not meet the purpose and need for the project; they involve new alignments, new routes and opening a new Port of Entry at Jacumba. A summary of scope, cost and feasibility for each alternative follows.

Alternative 1 – NO BUILD

Alternative 1 presents the option to do nothing. Alternative 1 is not feasible because it does nothing to address the need and purpose of this project. It also does not ease congestion nor reduce the potential for future accidents.

Alternative 2 – IMPROVE GEOMETRICS TO CURRENT 2-LANE STANDARDS, NO DESIGN EXCEPTIONS

Alternative 2, the recommended action in the SANDAG study within the limits of this PSR (PDS), proposes to revise the existing roadway geometrics to meet current standards and enable the trucks and large vehicles to stay within the paved traveled way and not cross the centerline stripe. This would allow the removal of the existing advisory signs for trucks

[2] Accident reports processed after the date of the TASAS request (07-23-01) are not included in this total.
[3] Statewide average for similar facilities.
[4] This segment of SR-94 has relatively good highway geometrics and is a potential site to add passing lanes.

exceeding a 9.14 m (30 ft) KP-RA length. Also, passing lanes and turnouts would be provided. Operations would be improved and the potential for accidents would be reduced. Additional right of way would be required. The roadbed width is anticipated to be approximately 12 m (40 ft) for the full limits of the study. This option provides standard 3.6 m (12 ft) lanes and standard 2.4 m (8 ft) paved shoulders. Operations would be improved and the environmental impact would require mitigation. This alternative would cost $60 to $80 million.

Alternative 3 – IMPROVE GEOMETRICS IN SELECT LOCATIONS PLUS PASSING LANES, SOME DESIGN EXCEPTIONS

Alternative 3 would provide the pavement width needed for two large vehicles, meeting at the same place, to pass in opposite directions. Also, provide paved shoulders in places less than the standard 2.4 m (8 ft) when environmental and community impacts would be severe. Only selected portions of the route would be improved, i.e., the locations identified in the Truck Restriction Study, the Passing Lane Projects (EA 165740 and EA 0569UK), turn-outs, and other areas where the pavement is less than the minimum required for two large vehicles to meet. This alternative would need a design exception for the mandatory HDM standard, Topic 307, Index 307.3 – Two-lane Cross Sections for RRR Projects. For Resurfacing, Restoration, and Rehabilitation (RRR) Projects, the roadbed minimum widths are given for several ranges of ADT. For this segment of SR-94 the ADT is over 6000, so the mandatory minimums and desired minimums are 9.6 m (32 ft) and 12 m (40 ft). Additional right of way would be required. This alternative would cost $40 to $60 million.

Alternative 4 – IMPROVE GEOMETRICS ONLY IN LOCATIONS TOO NARROW FOR TWO LARGE VEHICLES TO MEET, SOME DESIGN EXCEPTIONS

Alternative 4 proposes to only improve locations where the pavement width is inadequate for two large vehicles, meeting at the same place, to pass in opposite directions. As with Alternative 3, design exceptions for RRR would be required. The operations would not improve as much, but the environmental impact would be less. Additional right of way may be required. This alternative would cost $20 to $40 million.

Luis Betancourt, HQ Geometric Reviewer, has concurred that Alternatives 2, 3 and 4 are viable. However, concurrence by the Project Development Coordinator for further study of the viable alternatives included in this PSR (PDS) does not constitute approval of any non-standard features identified currently or in the future. Separate documentation and approval(s) will be required as per Chapter 21 of the PDPM.

Alternatives Considered but Eliminated from Further Study

The following alternatives are five concepts that were considered in the SANDAG study, but except for Alternative 7, not recommended for implementation. Therefore, Alternatives 5 through 9 are being dropped from further study by this PSR (PDS) as they do not address the purpose and need for the project, but rather are future, long-range, regional planning considerations.

Alternative 5 - SR-94 Four Lanes

The route for this alternative is from Avocado Blvd. (SR-54) to Buckman Springs Road on SR-94 and on Buckman Springs Road from SR-94 to Interstate 8. The existing 2-lane

roadways would be improved to 4-lane standards. The existing alignment, with curve improvements, would cost $650 to $900 million. The western portion up to Tecate, California would cost $350 to $500 million.

Alternative 6 - Buckman Springs Road
This alternative is only the eastern half of Alternative 3, SR-94 between Tecate, California and Buckman Springs Road and Buckman Springs Road from SR-94 to Interstate 8. The cost would be $300 to $400 million.

Alternative 7 - Jacumba-Jacume Port of Entry
This eastern-most alternative assumes the opening of a new Port of Entry (POE) at Jacumba. It proposes the widening of Old Highway 80 from Jacumba either to Carrizo Gorge Road or to In-Ko-Pah Road. The cost would range from $22 to $60 million. This shortest route would likely have the least adverse environmental impacts in comparison to the other eliminated alternatives. This potential POE is located approximately 30 miles to the east of Tecate, in a rural area of San Diego County, and opening this POE would require action by the Federal Government, as well as coordination with Mexican officials. Currently, approximately four percent of trucks that cross at the Tecate or Otay Mesa POEs travel to the east on I-8, with the remaining 96 percent travelling to the west or north. Therefore, the potential opening of Jacumba POE would actually serve a very limited number of commercial trucks unless the Tecate POE was closed.

Alternative 8 - Pine Valley Road (new alignment)
This alternative proposes a new road from Japatul Valley Road near I-8, through the Cleveland National Forest, and connecting to SR-94 just west of Potrero. The cost is estimated to be from $750 million to $1.5 billion, depending on the route.

Alternative 9 - Border Road (new alignment)
A new road along the U.S.-Mexico International Border, between SR-94 at Barrett Junction and Otay Mesa Road, is proposed for this alternative. Portions of the Otay Mountain Wilderness Area would be affected and the cost would be from $700 million to $1 billion.

Analysis of Proposals
Alternative 1 does not meet the need and purpose in the sense that it would not provide the necessary improvement in road standards nor reduce potential accidents. However, since this PSR (PDS) offers limited engineering and traffic operations analysis to make a more refined determination, it shall be carried into the environmental evaluation process for further review. Additional issues that will need to be reviewed in the Project Approval phase include drainage and utilities.

Alternatives 2, 3 and 4 would meet the purpose and need of this PSR (PDS) by making the operational improvements to increase the level of service and to reduce the potential for future accidents. The detailed curve correction geometrics and passing lane locations will need to be assessed in the 0-phase to determine the most appropriate solutions. Committees representing communities, regional groups, governmental officials and agencies will have

input to the process to pursue a balance of esthetics, functionality, economics, and environmental interests.

5. System Planning

This segment of SR-94 is not included in the Preferred Plan of the 2020 Regional Transportation Plan. The project as proposed is consistent with the future revised edition of the SR-94 Transportation Concept Report. SR-94 is included in the District System Management Plan (DSMP). Also, this is a State Highway with terminal access to the National Network and an integral part of NAFTA, providing goods movement to and from the International Border at Tecate and supports Maquiladora (twin plant) assembly operations. By the year 2020, the average number of trucks per day crossing through this POE is expected to increase from 293 (1995) to 1,223.

6. Environmental Determination

It has been determined that the appropriate environmental documentation for the project is an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) and an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA). The reasons are issues that may remain significantly adverse after mitigation such as visual impact, community character, and biological and cultural resources. The lead agencies are Caltrans for CEQA and Federal Highway Administration for NEPA.

It is important to note that a Project Study Report (Project Development Support) [PSR (PDS)] presents preliminary level studies; more in-depth studies will be completed as part of the environmental process.

Air Quality

The project must be in an approved Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) prior to completion of final environmental approval. In addition a Transportation Project-Level Carbon Monoxide air quality analysis is required during the environmental processing phase.

Biology

The following estimates are based on information from past projects (Passing Lanes Projects EA 165740 and 0569UK), in-house data, and a record search of the California Natural Diversity Database (CNDDB) [California Department of Fish and Game (CDFG) 2001 Dulzura and Tecate Quads]. No field surveys were conducted; therefore, additional species may be affected by the project.

Habitat communities potentially impacted within the SR 94 Corridor include, oak woodland, southern coast live oak riparian forest, southern willow scrub, coastal sage scrub, coastal sage scrub-chaparral, and southern mixed chaparral. Oak trees (*Quercus* sp.) as well as other native tree species, including sycamore (*Platanus* sp.) and cottonwood (*Populus* sp.) may also be affected by the proposed project. In addition, there are areas within SR 94 Corridor that fall under the jurisdiction of the U. S. Army Corps of Engineers (ACOE) and the California Department of Fish and Game (CDFG) including riparian wetlands and open water. Coordination and permitting through the ACOE and CDFG

would be necessary due to the presence of wetlands/waters within the project boundaries (i.e., Section 1601 Streambed Alteration Agreement, Section 404 of the Clean Water Act). Wetland impacts will be determined after completing a wetland delineation.

Biological surveys for sensitive plants and animals will need to be conducted. Below is a list of federal and/or state listed species that potentially may occur within the SR 94 Corridor. Biological surveys will include focused botanical surveys for rare plants and USFWS protocol level surveys for the species listed below. Focused surveys must be conducted at the appropriate time of year to fully assess impacts to biological resources.

Listed Species Potentially Occurring within the Project Area:

Scientific Name	***Common Name***	***Critical Habitat***	***Status***
Empidonax traillii (extimus)	*Willow flycatcher (southwestern)*		*FE/SE*
Polioptila californica californica	*Coastal California gnatcatcher*		*FT/---*
Vireo bellii pusillus	*least Bell's vireo*		*FE/SE*
Bufo californicus	*arroyo toad*	*Unit 19. Cottonwood Creek Basin, San Diego County*	*FE/---*
Euphydryas editha quino	*Quino checkerspot butterfly*	*Proposed Critical Habitat - Otay Unit*	*FE/SE*

Status – FE: Federally endangered, FT: Federally threatened, FPE: Federally proposed endangered, FPT: Federally proposed threatened, SE: State endangered, ST: State threatened.

As the proposed project has the potential to impact federally listed species and/or critical habitat, the California Department of Transportation, in conjunction with the Federal Highway Administration, would be required to consult with the USFWS, pursuant to section 7 of the Endangered Species Act (Act). The Act mandates that every federal agency consult with the Service "to insure that any action it authorizes, funds, or carries out...is not likely to jeopardize the continued existence of any listed species or results in the destruction or adverse modification of critical habitat". Formal consultation would be necessary if it was determined that the action may affect listed species or critical habitat (50 CFR §402.14). Initiation of formal consultation would require the submission of a biological assessment or equivalent document, in accordance with section 7 implementing regulations (50 CFR §402.12 and §402.14(c)). Similarly, the issuance of an incidental take statement would be needed by the CDFG (Section 2080.1) for state listed species that would be harmed/harassed as a result of the proposed action.

Wildlife corridors will also need to be addressed, specifically identifying the animal species that potentially use the area and the corridor's value in facilitating regional wildlife movement. The project should still allow for the continued movement of wildlife in this area.

Please note that the preceding information is preliminary and based upon a cursory examination. Until more comprehensive surveys are completed, all impacts and mitigation are estimates.

Cultural Resource [Archaeology/ Historical Architecture]
Portions of the proposed work fall within areas that have been addressed by previous projects. Additional archaeological and historical architectural evaluations will be needed for the current project. Numerous archaeological sites have been recorded within and immediately adjacent to the project and may require updated recordation and possibly an Extended Phase I/ Phase II investigation. Several of these sites have already been identified as being significant resources containing cultural components and if they cannot be avoided, Phase III Data Recovery/Mitigation Programs will need to be proposed. Native American Repatriation Agreements and the State Historic Preservation Office's concurrence with the proposed Phase III Program will be necessary for the Section 106 process to be completed for the project.

In the portions which have not been previously addressed, there is a high potential that additional archaeological resources may exist within or adjacent to the project, but an archaeological survey will be needed to identify them. These newly identified sites may also need Extended Phase I/Phase II investigations. Again, if these additional sites are found to be significant resources, they will also be part of the Phase III Program if they cannot be avoided.

A number of structures are within and adjacent to the proposed project and will need historical architectural evaluations. The evaluations will be presented in a Historic Architecture Study Report (HASR). If there are significant structures that may be affected by the project and can not be avoided, they will also be part of a Phase III Program.

Hazardous waste
There is low potential for hazardous waste in the project area. Once the impacted parcels are known, an individual clearance will be done on each parcel for Right of Way. Additional hazardous waste analysis will be required during the environmental compliance and prior to the construction phase.

Noise
The project could change the vertical and horizontal alignments of State Route 94. Potential adverse noise impacts may occur if the highway is realigned closer to sensitive noise receptors. Sensitive noise receptors in the project area consist of single family residences and commercial businesses. A noise study will be required to evaluate impacts to these receptors. Noise walls and noise berms will be used to attenuate noise impacts if they are found to be reasonable and feasible.

Permits and Approvals
Permits pursuant to Section 401 and 404 of the Clean Water Act would be required. A Streambed Alteration agreement pursuant to Section 1601 of the California Fish and Game Code will also be required. Section 7 consultation with the U.S. Fish and Wildlife Service, and a 2080.1 agreement with the California Department of Fish and Game are expected.

Community Impacts
The potential adverse impacts to the social and economic environment of the community of Dulzura will require further study. Demographic descriptions and population/ employment projections for the corridor will need to be completed. A general discussion of growth impacts would also be required. Impacts to the communities adjacent to the project will need to be addressed from a noise and visual standpoint. Community character impacts will need to be addressed as will compatibility with local plans.

A Relocation Impact Study will be necessary for the commercial businesses and any family residences removed by the project as well as a discussion of the economic ramifications of their relocation. These impacts would be expected to be moderate in scope. Environmental justice will need to be addressed. A field review of the project indicates that commercial and residential properties located in Dulzura are low income and generally non-conforming uses – indicating that their relocation would be difficult. Other affected land uses include farmland. Coordination with local emergency services is necessary to ensure access is maintained.

Visual
The project would impact a highly sensitive area, in terms of visual resources. The potentially adverse visual impacts that may occur as a result of the project are:

1) The visual effects of noise barriers to residents and highway users, 2) the visual effects of any features such as retaining walls and structures, 3) oak tree removals and the resulting undesirable views that would be created, 4) changes to existing landforms, exposure and modification of substantial rock outcroppings, 5) loss of existing mature vegetation and the lack of water for any substantial revegetation planting, 6) severe grading resulting in vertical or extremely steep slopes, and 7) additional paved areas in the view shed resulting in changes to the existing rural character.

Potential mitigation measures include, but would not be limited to, the following:
1) purchasing enough right of way to facilitate construction of noise berms and landscaped visual buffers, 2) providing architectural detailing in structures and retaining walls that would be visually compatible with the existing built forms in the viewshed, 3) providing enhanced rural feel appurtenances such as black vinyl coated chain link fence and/or wood fences, 4) landscaping the facility with trees, shrubs, and groundcover, 5) replacing vegetation removed as a result of the project, 6) contour grading and/or rock sculpting to create more natural-looking slopes.

SR-94 is eligible to be designated as a State Scenic Highway. A full visual study will need to be undertaken when specific project features are developed.

Water Quality
A Water Quality Study will be required. Cut and fill slopes will be subject to erosion and siltation in the minor drainages crossing the facility will occur. Runoff from road surfaces may wash small amounts of pollutants into drainages. The only major stream near the proposed grading is Dulzura Creek, which is used by Otay Water District as a conduit for

water from Barrett Lake to Otay Lakes (part of San Diego's water supply system). The Water Quality Control Plan for San Diego lists the following beneficial uses for the Dulzura Creek: municipal, agricultural, industrial service and process, recreation 1 and 2, warm freshwater habitat, and wildlife habitat. Water Quality certification under Clean Water Act Section 401 would be required from the Regional Water Quality Control Board prior to construction. Since groundwater is used by local residents, developing groundwater supply for the project near any residences should not be permitted. Further studies will provide locations for construction water sources.

Caltrans Standard Specifications for construction will minimize impacts. During construction, Caltrans will comply with measures set forth in the National Pollutant Discharge Elimination System (NPDES) permit. Existing and future water quality will be monitored and controlled through the NPDES permit process; the Special Area Wide Storm Water Permit and Waste Discharge Requirements for Caltrans will be used. All water quality standards are covered in the NPDES Storm Water Permit. Special Provisions in the construction contract will require preparation of a Stormwater Pollution Prevention Plan (SWPPP), or a Water Pollution Control Plan (WPCP) for the construction sites. Appropriate measures and Best Management Practices will be implemented such as seeding slopes with native indigenous plants to establish vegetation to reduce long-term erosion and siltation. Fiber rolls and other erosion control measures may be proposed to ensure that siltation does not occur into Dulzura Creek.

7. Right of Way

The impact of the alternatives are summarized in the table below:

Item	Alternative 2	Alternative 3	Alternative 4
Number of Parcels	90 - 110	60 – 80	40 - 50
Acreage Required	100 Acres	50 Acres	20 Acres
Cost	$2.5 M	$1.25 M	$500 K

Based on 100 ft R/W width and $25,000 per acre

8. Risk Assessment / Change Control

The purpose and need for this project is to improve the highway geometrics of SR-94 from Melody Road to SR-188. The specific objective is to provide current design standards for a 2-lane rural highway (12-ft lanes and 8-ft shoulders) and to add passing lanes and vehicle turn-outs where possible. This concept is identified as Alternative 2 and is described in Section 4.

Due to the environmentally sensitive nature of the land adjoining the highway, it is probable that the full-width widening will not be attainable throughout the project's limits. As the project progresses through the technical studies process, the project will evolve as attempts are made to minimize impacts.

With these variables in mind, it is not possible to realistically evaluate the quantitative and qualitative risks during the PSR-PDS phase. At the conclusion of the EIS/EIR process, when the proposed project footprint is resolved and the scope is finalized, the major

elements of risk can be assessed and included in the Project Report . If high-risk issues involving avoidance of environmentally sensitive areas potentially jeopardize the cost, scope or schedule, the project footprint can be modified in order to provide the best deliverable project. Avoidance and minimization of impact will be key elements in reducing risk, reducing any community and agency concerns, and yet still allowing the project to meet the purpose and need. See Exhibit 5 for a table summary of Risk Assessment / Change Control.

Simply stated, project risks can be alleviated by using a variable combination of Alternatives 2, 3 and 4. This concept was reviewed and concurred with, in principle, by Luis Betancourt, HQ Design Reviewer on August 21, 2001.

9. Funding/Scheduling

The current 10-year SHOPP candidate list contains several small projects within the limits of this PA&ED. In order to address the issue of cumulative impacts in the corridor, it may become necessary to environmentally clear those projects as part of this PA&ED. Construction would likely occur in a segmented manner with the most urgent projects scheduled first. The PA&ED phase of this project is a candidate for 2002 SHOPP funding from the HB4N-20.10.201.310 Program. The estimated costs for this project are as follows:

The tentative schedule is as follows:

PA&ED	Start	10/01	Finish	10/06
PSE	Start	10/06	Finish	10/08
R/W Acquisition	Start	04/07	Finish	10/08
RTL	Start	01/09	Finish	01/09
Construction	Start	07/09	Finish	07/11

10. Recommendation

This PSR (PDS) recommends the PA&ED phase of this project be programmed into the 2002 SHOPP. This will allow the alternatives presented in this document to move forward into the Project Authorization/Environmental phase.

11. District Contacts

Environmental:	John Chisholm	Calnet (8)688-3272
Design:	David Walcott	Calnet (8)688-3298
Traffic Operations:	Hank Morris	Calnet (8)688-6881

REFERENCES

1) "AutoTURN ® Version 3.0 User's Guide, Revised August 1997

2) "Highway Design Manual" Fifth Edition, Caltrans

3) Map titled "Truck Networks on California State Highways", Caltrans, January 1998

4) "Route Concept Report State Route 94", Caltrans, January 1991

5) "Rural Highway 94 - Corridor Study", SANDAG, January 2001

6) "Rural Highway 94 Corridor Study Technical Advisory Committee Data", SANDAG, February 2000

7) "State of California 2001 Vehicle Code Through the 2000 Legislative Session"

8) State Route 94 Corridor Study, Phase I, Avocado Blvd. to SR-188" Caltrans, March 1997

9) "State Route 94 Passing Lanes San Diego County, Negative Declaration/Finding of No Significant Impact", Caltrans, May 1998

10) "Technical Report State Route 94 Corridor, Tecate Port of Entry: Trade and Truck Traffic", SANDAG, July 9, 1997

11) "Truck Kingpin to Rear Axle Length State Highway System Evaluation Report", Caltrans, December 1989

12) "Truck Networks and Offtracking Analysis", Caltrans, September 1994

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